

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE AND  
BEFORE THE BOARD OF APPEALS

In re Application of :  
Yoram MEIDAN : Confirmation No. 8535  
U.S. Patent Application No. 10/507,496 : Group Art Unit: 3671  
Filed: September 13, 2004 : Examiner: Gary S. HARTMANN

For: CRASH BARRIERS FOR ROADS AND METHOD FOR  
ASSEMBLING SAME

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U.S. Patents and Trademarks Office

Attention: BOARD OF PATENT APPEALS AND INTERFERENCES

**APPEAL BRIEF**

This brief contains the following items in the order set forth below (37 C.F.R. § 41.37(c)):

- I. Real Party in Interest.
- II. Related Appeals and Interferences.
- III. Status of Claims.
- IV. Status of Amendments.
- V. Summary of Claimed Subject Matter.
- VI. Grounds of Rejection to be Reviewed on Appeal.
- VII. Argument.
- VIII. Claims Appendix.
- IX. Evidence Appendix.
- X. Related Procedures Appendix.

I. REAL PARTY IN INTEREST

The real party of interest is:

SAGY, Alexander

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as recorded on June 7, 2007 at Reel/Frame 019396/0444

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

A. Total Number of Claims in Application

There is a total of 12 claims in the application, which are identified as claims 1-3, 5-6, 8-9, 12-13 and 15-17

B. Status of all the claims

1. Claims cancelled: 4, 7, 10-11, 14, 18-23
2. Claims withdrawn from consideration but not cancelled: 8, 9, 15 and 17
3. Claims pending: claims 1-3, 5-6, 8-9, 12-13 and 15-17
4. Claims allowed: none
5. Claims rejected: 1-3, 5-6, 12-13 and 16
6. Claims objected to: none
7. Claims on Appeal: 1-3, 5-6, 12-13 and 16

**IV. STATUS OF AMENDMENTS**

In an after final amendment submitted to the PTO on September 29, 2008, claim 5 was amended in manner which changed "Teflon®" to "polytetrafluoroethylene." The Advisory Action dated October 15, 2008 indicated that this amendment would be entered upon the filing of a Notice of Appeal. Inasmuch as said Notice was filed on November 28, 2008, it is deemed that this amendment has been entered and is accordingly reflected in the appended claims.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

Independent claim 1 is directed to a crash barrier assembly, comprising:

a plurality of prismatic, solid material structural elements (page 3, lines 12-14 – Figs. 1A, 1B), at least one of said elements having a shoulder (page 1, lines 26-29) forming two vertical surfaces and a horizontal surface on at least one of its sides (Fig. 2), and another element having substantially matching surfaces (page 1 line 29) on at least one of its sides so as to facilitate juxtaposing of said elements,

a coupling structure (page 2 lines 1-4 – Figs. 3-6) in the form of a rod traversing said horizontal surface and interconnecting said elements to each other in a manner facilitating relative controlled movement along the horizontal surface of one element with respect to the other about said coupling structure, and

energy-absorbing material (page 4, lines 1-3 Figs. 3-6) different than said solid material, located in at least one of said elements and surrounding at least a portion of said rod (page 4, lines 3-8),

whereby, upon impact, the relative movement between two adjacent elements about said rod, is controlled by the energy absorbed by the energy-absorbing material (page 4, lines 9-17).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A) The rejection of claims 1-3, 5, 6, 13 and 16 under 35 U.S.C. 103(a) as being unpatentable over Prosenz (U.S. Patent 4,376,594) in view of Thompson (U.S. Patent 4,681,302).
- B) The rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Prosenz and Thompson as applied above, and further in view of Smith (U.S. Patent 5,022,781).
- C) The rejection of claim 12 under 35 U.S.C. 103(a) as being unpatentable over Prosenz/Thompson/Smith as applied above, and further in view of Tagg (U.S. Patent 6,837,647).

**VII. ARGUMENT**

- A) The rejection of claims 1-3, 5, 6, 13 and 16 under 35 U.S.C. 103(a) as being unpatentable over Prosenz (U.S. Patent 4,376,594) in view of Thompson (U.S. Patent 4,681,302) is submitted as being untenable. A reversal of this rejection is requested.

Prosenz teaches a traffic guide which can be used as median barrier/road edge barrier. However, this arrangement is such as to use a pin joint 8 to interconnect barrier members so that push in a traverse direction, is initially accommodated by shifting of the elements per se and then by swivel of the element connections. The Examiner has acknowledged, "Prosenz does not teach the material different from that the main portion of the barrier to be surrounding the rod." Hence, it is submitted that Prosenz does not teach or suggest the claimed invention, which is directed to the absorption of energy utilizing a material that surrounds at least part of the rod.

To overcome the above-mentioned admitted shortcoming the rejection turns to Thompson. However, the hinge arrangements which are shown in this reference, are designed to facilitate hinging of the elements into configurations such as shown in Figs. 5-7 of Thompson. As such, there is no intention of absorbing/attenuating shock/impact using these hinge structures. Indeed, there is no disclosure or suggestion of such in this reference.

That is to say, the rejection cites "material (40)" as being different from the barrier and such as to surround a rod or pins 42. However, there is nothing in Thompson to suggest that the pin bushings 40 are in fact softer than the material of the protrusions 36 (exemplified as being made of cross-linked, high density polyethylene) in which they are disposed. Indeed, it may well be that the bushings 40 are made of a harder material in order to provide bearing surfaces which exhibit good wear characteristics and protect the material of the protrusions in which they are fitted, from abrasion and the like. A harder material would produce less shock absorbing properties than the softer material.

It is submitted that, whether materials *per se* which could be used to absorb shock are known in the art or not, the actual shock absorbing features of Thompson are ignored. That is to say, the barrier members in this arrangement are filled with water or comprise concrete members with water filled jackets provided thereon. In addition, some embodiments are

provided with a ribbed exterior which is also a feature which facilitates the absorption of impact forces.

It is submitted that when taken as a whole, the disclosure of Thompson would actually tend to lead away from the claimed subject matter in that it is not the hinge elements but the water filled portions of the elements which is the structure clearly intended to absorb impact.

Therefore, the position taken in the final rejection that "it would have been obvious to one ordinarily...to have used the configuration of Thompson with the barrier of Prosenz in order to include a bushing as taught by Thompson" is deemed to be untenable for at least the reasons advanced above.

The use of a hinge such has found in Thompson would more than likely render it easier for the elements to fold toward one another and therefore reduce the impact absorbing function mentioned in the paragraph spanning columns 5 and 6 of Prosenz.

There is no disclosure in Thompson that the material from which the bushings 40 are formed will provide any shock/impact absorbing function. Any assumption to this end would have to be deemed possibly tainted with a full working knowledge of the claimed subject matter.

Further, Prosenz, in Fig. 6 shows what appears to be severe interference at "9" in this figure. That is to say, the interconnected elements have surfaces which appear to be intended to engage and possibly grind on one another in an impact attenuating manner. Although there is no disclosure to this end it would appear clear to the person of ordinary skill in this particular art. It is therefore submitted that this would attenuate any tendency to look to the hinge structures found in Thompson for suggestion of improvement.

Furthermore, since the rejections are made under § 103, in order to establish a *prima facie* case of obviousness, it is necessary to show that the hypothetical person of ordinary skill would, without any knowledge of the claimed subject matter and without any inventive activity, be provided with disclosure of all of the claimed elements and then motivated to arrive at the claimed subject matter given the guidance of the cited references when each is fully considered as statutorily required. It is submitted that the examiner has failed to meet these requirements thus rendering the rejections ripe for reversal.

Furthermore, as described in Thompson, the purpose of the "fittings for end coupling of a barrier to like barriers (is that) the fittings permit adjacent barriers to be located at different heights to accommodate..." (Abstract, lines 14 to 17; col. 9, lines 54 to 60). This is obviously not the case with the basic arrangement of Prosenz.

The issues are muddled by the statements that "the materials are not disclosed by Prosenz in association with the energy-absorbing material (8); ... 8 in Prosenz is a pin joint and not an energy-absorbing material, as described and defined in the present application.

The position "that it would have been obvious... to have used polytetrafluoroethylene as a coating on the coupling structure of Prosenz, in order to ease connection and disassembly of adjacent barriers" is not seen as being relevant. The claimed material is not intended to "ease connection and disassembly of adjacent barriers", but, is adopted to absorb impact energy on the barrier elements. This material could alternatively be rubber, a metallic sponge, a metal spring or a hydraulic fluid.

For all of the above reasons, it is clear that the combination of the teachings of Prosenz and Thompson, even if consideration were given a combination of teachings found therein, still the claimed subject matter, at the very least as set forth in claim 1, would be forthcoming.

In summary, the rejection sets forth that:

As discussed in previous Office actions, Prosenz discloses a plurality of elements having the claimed shape (Figure 5). Prosenz does not teach the material different from that the main portion of the barrier to be surrounding the rod. Thompson discloses a material (40) different from the barrier to be surrounding a connecting rod (42). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the configuration of Thompson with the barrier of Prosenz in order to include a bushing, as taught by Thompson. The bushing meets the recitations regarding the bore.  
(Emphasis added)

In connection with the material 40 being different, it is submitted that just being different does not amount to an energy absorbing material; and the position that the "bushing meets the recitations . . ." is only good under § 102 and, since the rejection is made under § 103, a reason why the hypothetical person of ordinary skill would understand the relevance of this position has not been properly advanced.

The rejection further sets forth that:

The materials are not disclosed by Prosenz in association with the energy absorbing material (8); however, these materials are well known for use in crash barriers. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used polytetrafluoroethylene as a coating on the coupling structure of Prosenz, in order to ease connection and disassembly of adjacent barriers, for example. This meets claim recitations.  
(Emphasis added)

In rebuttal, the quasi § 102 rejection "this meets the claim recitations" is noted and submitted as failing to establish a *prima facie* case under § 103. Further, polytetrafluoroethylene is known for low friction/friction reducing, non-stick characteristics. Its use as an energy absorbing material was (and again is) challenged. The Examiner was requested to support this energy absorbing position with a suitable citation clearly establishing the energy absorbing characteristics relied upon for rejection. No such showing has been made which leaves this issue yet unresolved.

- B) The rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Prosenz and Thompson as applied above, and further in view of Smith (U.S. Patent 5,022,781), is submitted as being untenable and the reversal of this claim is requested.

This rejection advances that:

Smith teaches a barrier having a cup lined bore (34, Figure 3) for accommodating a rod. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the cup lined bore of Smith with the barrier of Prosenz in

order to strengthen the bore and/or easily manufactured the barrier having a bore therein.

At first blush it would appear that making a device more complex via the addition of a cup to line a bore would amount to the very reverse of that position assumed by the Examiner. That is to say, adding a further element to the mix would increase the complexity/difficulty of fabrication - not reduce it. Further, it is conjecture as to any increase in strength that may result. The citation of a reference supporting this position was requested, but has not been provided. Yet another unresolved issue remains. This attenuates tenability of the rejection.

- C) The rejection of claim 12 under 35 U.S.C. 103(a) as being unpatentable over Prosenz/Thompson/Smith as applied above, and further in view of Tagg (U.S. Patent 6,837,647) is deemed untenable and a reversal of this rejection is requested.

This rejection advances that:

Tagg discloses optionally interconnecting barriers with a tubular pin having integral anchor members (43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the pin of Tagg with the barrier of Prosenz in order to obtain a more secure connection, as taught by Tagg.

A review of the Tagg reference fails to reveal disclosure that the connection arrangement of Tagg actually produces a more secure connection than that which is provided by a pin of the nature used in Prosenz. The rejection failed to identify using column/line, the portions of Tagg that actually support the wholly conclusatory position taken in this rejection. After all, in order to establish a *prima facie* case of obviousness, it is necessary to show that the hypothetical person of ordinary skill would, without any knowledge of the claimed subject matter and without any inventive activity, be motivated to arrive at the claimed subject matter given the guidance of the cited references when each is fully considered as statutorily required.

In this instance, it is submitted that the Examiner has failed to meet this burden.

It is submitted that the claims 2, 3, 5, 13 and 16 not specifically addressed above, are patentable for at least the following reasons.

Claim 2

It is submitted that claim 2 is patentable over the cited art in at least that it calls for the solid material structural elements recited in claim 1, to be generally trapezoidal in shape. This issue has not been addressed in the final rejection and is submitted as not being disclosed or suggested in the cited art.

Claim 3.

It is submitted that claim 3 is patentable over the cited art in at least that it calls for the claimed rod which interconnects two juxtaposed elements and traverses the horizontal surface recited in claim 1 to be disposed in one of a bore and a hole. This issue has not been addressed in the final rejection.

Claim 5.

It is submitted that claim 5 is patentable over the cited art in that it calls for the energy-absorbing material to comprise one of neoprene, rubber, polytetrafluoroethylene, metallic sponge, a metal spring or springs, and hydraulic fluid. While the rejection mentions polytetrafluoroethylene, it is submitted that the well known non-stick properties of this material would be more likely to suggest a slippery interface which would permit relatively movement between interconnected elements to more readily occur and therefore attenuate any impact absorption that may be provided by this material.

Claim 13

Claim 13 is submitted as being patentable in that it calls for the rod recited in claim 1 to be formed at its lower portion with a multi-sided body. This issue has not been addressed in the final rejection.

Claim 16

Claim 16 is submitted as being patentable in that it calls for the energy-absorbing material to be disposed in a groove formed in at least one of the vertical surfaces of said shoulder. It is submitted that this requirement has not been specifically addressed in the final rejection.

**Conclusion**

In conclusion, it is submitted that a reversal of the rejection of the claims on appeal is fully warranted and is therefore courteously solicited.

If for any reason this Appeal Brief is found to be incomplete, or if at any time it appears that a telephone conference with counsel would help advance prosecution, please telephone the undersigned, Applicant's attorney of record.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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**VIII. CLAIMS APPENDIX**

1. A crash barrier assembly, comprising:

a plurality of prismatic, solid material structural elements, at least one of said elements having a shoulder forming two vertical surfaces and a horizontal surface on at least one of its sides, and another element having substantially matching surfaces on at least one of its sides so as to facilitate juxtaposing of said elements,

a coupling structure in the form of a rod traversing said horizontal surface and interconnecting said elements to each other in a manner facilitating relative controlled movement along the horizontal surface of one element with respect to the other about said coupling structure, and

energy-absorbing material different than said solid material, located in at least one of said elements and surrounding at least a portion of said rod,

whereby, upon impact, the relative movement between two adjacent elements about said rod, is controlled by the energy absorbed by the energy-absorbing material.

2. The crash barrier assembly as claimed in claim 1, wherein said elements are generally trapezoidal in shape.

3. The crash barrier assembly as claimed in claim 1, wherein said rod interconnecting two juxtaposed elements and traversing said horizontal surface is disposed in one of a bore and a hole.

5. The crash barrier assembly as claimed in claim 1, wherein said energy-absorbing material comprises one of neoprene, rubber, polytetrafluoroethylene, metallic sponge, a metal spring or springs, and hydraulic fluid.

6. The crash barrier assembly as claimed in claim 1, wherein said coupling structure further comprises a cup-lined bore in said horizontal surface, into which said rod extends.

12. The crash barrier assembly as claimed in claim 1, wherein said rod is formed with integral anchoring members.

13. The crash barrier assembly as claimed in claim 1, wherein said rod is formed at its lower portion with a multi-sided body.

16. The crash barrier assembly as claimed in claim 1, wherein said energy-absorbing material is disposed in a groove formed in at least one of the vertical surfaces of said shoulder.

**IX. EVIDENCE APPENDIX**

None

**X. RELATED PROCEEDINGS APPENDIX**

None - There are no related proceedings